

IN THE CLAIMS

1. (currently amended) A variable-gain amplifier comprising:

a plurality of dual-gate FETs having first FETs having respective gates for being supplied with an input signal and second FETs having respective sources connected respectively to drains of the first FETs, the first FETs having respective sources connected in common to each other and the second FETs having respective drains connected in common to each other; and

a plurality of voltage control means connected to respective gates of the second FETs for applying gate voltages separately thereto, the plurality of voltage control means including at least a first voltage control means and a second voltage control means, the first voltage control means and the second voltage control means being responsive to a voltage source such that the minimum voltage source output at which the first voltage control means produces an output voltage is less than the minimum voltage source output at which the second voltage control means produces an output voltage

~~the input signal supplied to the respective gates of the first FETs being the same input signal.~~

2. (currently amended) A variable-gain amplifier comprising:

a plurality of variable-gain amplifying elements having FETs having respective gates for being supplied with an input signal and bipolar transistors having respective emitters connected respectively to drains of the FETs, the FETs having respective sources connected in common to each other and the bipolar transistors having respective collectors connected in common to each other; and

a plurality of voltage control means connected to respective bases of the bipolar transistors for applying base voltages separately thereto, the plurality of voltage control

means including at least a first voltage control means and a second voltage control means, the first voltage control means and the second voltage control means being responsive to a voltage source such that the minimum voltage source output at which the first voltage control means produces an output voltage is less than the minimum voltage source output at which the second voltage control means produces an output voltage

~~the input signal supplied to the respective gates of the FETs being the same input signal.~~

3. (original) The variable-gain amplifier according to claim 1 or 2, wherein the FETs for being supplied with the input signal have substantially identical electric characteristics.

4. (original) The variable-gain amplifier according to claim 1 or 2, wherein at least one of the FETs for being supplied with the input signal has electric characteristics different from electric characteristics of the other one or more of the FETs for being supplied with the input signal.

5. (original) The variable-gain amplifier according to claim 1 or 2, further comprising a voltage feedback path interconnecting a signal input section and a signal output section.

6. (currently amended) A variable-gain amplifier comprising:

a plurality of first dual-gate FETs having first FETs having respective gates for being supplied with an input signal and second FETs having respective sources connected respectively to drains of the first FETs, the first FETs having respective sources connected in common to each other and the second FETs having respective drains connected in common to each other;

a plurality of second dual-gate FETs having third FETs having respective gates for being supplied with an inverted input signal and fourth FETs having respective sources connected respectively to drains of the third FETs, the third FETs having

respective sources connected in common to each other and the fourth FETs having respective drains connected in common to each other; and

a plurality of voltage control means connected to respective gates of the second FETs and respective gates of the fourth FETs for applying gate voltages separately thereto;

wherein the number of the first dual-gate FETs, the number of the second dual-gate FETs, and the number of the voltage control means are equal to each other, the plurality of voltage control means including at least a first voltage control means and a second voltage control means, the first voltage control means and the second voltage control means being responsive to a voltage source such that the minimum voltage source output at which the first voltage control means produces an output voltage is less than the minimum voltage source output at which the second voltage control means produces an output voltage

~~the input signal supplied to the respective gates of the first FETs being the same input signal.~~

7. (currently amended) A variable-gain amplifier comprising:

a plurality of dual-gate FETs having first FETs having respective gates for being supplied with an input signal such that the first FETs are supplied with the same input signal, and second FETs having respective sources connected respectively to drains of the first FETs, the first FETs having respective sources connected in common to each other and the second FETs having respective drains connected in common to each other;

a voltage feedback path coupling the drains of the second FETs to the gates of first FETs; and

a plurality of voltage control means connected to respective gates of the second FETs for applying gate voltages separately thereto, the plurality of voltage control means

including at least a first voltage control means and a second voltage control means, the first voltage control means and the second voltage control means being responsive to a voltage source such that the minimum voltage source output at which the first voltage control means produces an output voltage is less than the minimum voltage source output at which the second voltage control means produces an output voltage.